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## Accretion and erosion

### **WAC 332-30-106 Definitions.**

All definitions in this section shall apply to the department and to port districts managing aquatic lands under a management agreement (WAC 332-30-114). For the purpose of this chapter:

(1) "Accretion" means the natural buildup of shoreline through the gradual deposit of alluvium. The general principle of common law applicable is that a riparian or littoral owner gains by accretion and reliction, and loses by erosion. Boundary lines generally will change with accretion.

(8) "Avulsion" means a sudden and perceptible change in the shoreline of a body of water. Generally no change in boundary lines occurs.

(17) "Erosion" means the gradual cutting away of a shore by natural processes. Title is generally lost by erosion, just as it is gained by accretion.

(58) "Reliction" means the gradual withdrawal of water from a shoreline leaving the land uncovered. Boundaries usually change with reliction.

### **Discussion on accretion and erosion**

Questions of accretion, avulsion, erosion, and reliction are important because they determine ownership when shoreline locations change. In general, when shorelines change gradually, such as by accretion or erosion, the ownership boundary changes with it. However, when shorelines change suddenly in avulsions – such as land slides and dredging – ownership boundaries do not change. In the latter case, aquatic lands may be dry but still legally be considered aquatic lands, and uplands may be wet but still legally be considered uplands. When ownership disputes arise, staff

should consult with the Division or the department's Land Surveyor for aquatic lands.

An exception to the above rules is when accretions add to tidelands or shorelands which the state previously sold, as described above. This may happen if sediment washed onto the tidelands or shorelands making the extreme low tide line or line of navigability farther from shore. In this case, the new tidelands or shorelands belong to the state, but the owner of adjacent tidelands or shorelands has a preference right to purchase them. SEE ALSO: Tidelands; Shorelands. For more information on sale of accreted tidelands or shorelands, SEE ALSO: State-owned aquatic lands.

## Acquisitions

SEE: Exchanges and acquisitions.

## ALEA grants

SEE: Aquatic Lands Enhancement Account.

## Appeals, rent

SEE: Rent.

## Aquaculture

### **RCW 79.68.080: Fostering use of aquatic environment--Limitation.**

The department of natural resources shall foster the commercial and recreational use of the aquatic environment for production of food, fibre, income, and public enjoyment from state-owned aquatic lands under its jurisdiction and from associated waters, and to this end the department may develop and improve production and

harvesting of seaweeds and sealife attached to or growing on aquatic land or contained in aquaculture containers, but nothing in this section shall alter the responsibility of other state agencies for their normal management of fish, shellfish, game and water.

**RCW 79.90.495: Rents and fees for aquatic lands used for aquaculture production and harvesting.**

If state-owned aquatic lands are used for aquaculture production or harvesting, rents and fees shall be established through competitive bidding or negotiation.

**WAC 332-30-106 Definitions.**

(4) "Aquaculture" means the culture and/or farming of food fish, shellfish, and other aquatic plants and animals in fresh water, brackish water or salt water areas. Aquaculture practices may include but are not limited to hatching, seeding or planting, cultivating, feeding, raising, harvesting of planted crops or of natural crops so as to maintain an optimum yield, and processing of aquatic plants or animals.

**WAC 332-30-118: Tidelands, shorelands and beds of navigable waters.**

(8) Whenever structures are used for aquaculture on the beds of navigable waters, they shall be located in such a way as to minimize the interference with navigation and fishing and strive to reduce adverse visual impacts.

**WAC 332-30-161: Aquaculture.**

This section shall not apply to port districts managing aquatic lands under a management agreement (WAC 332-30-114). Aquaculture is an aquatic land use of state-wide value. Aquaculture will be fostered through research, flexible lease fees, and assistance in permitting and planning.

(1) Research. The department will conduct or sponsor research and development work on aquaculture species and techniques suitable for culture on state-owned aquatic lands. Research will be coordinated with, and not duplicate, research undertaken by other agencies.

(2) Fees. Lease fees for aquaculture operations are subject to negotiation. Negotiations will consider the operational risks, maturity of the industry, and ability to further research.

(a) Fees may be reduced during the initial start-up period of the lease.

(b) Fees over the life of the lease will not exceed rents paid by other water-dependent uses.

(3) Permit acquisition. The department may obtain local, state, and/or federal permits for aquacultural use of state-owned aquatic lands having high aquaculture potential and lease these areas to aquaculturists.

(4) Site protection. The department will identify areas of state-owned aquatic land of state-wide value for aquaculture. Local governments will be encouraged to reserve and protect these lands from incompatible uses.

**Discussion on aquaculture**

Aquaculture includes harvesting of existing shellfish, cultivating shellfish in artificial beds, cultivating shellfish on floating rafts, and raising fin fish in floating net pens. It does not include harvesting geoducks. SEE ALSO: Geoducks.

Even though aquaculture is a water-dependent use, rents and fees for aquaculture production and harvesting are set through competitive bidding and negotiation, not by the water-dependent rent formula. However, fees over the life of the lease may not exceed rents that would be paid by other water-dependent uses. SEE ALSO: Water-dependent uses.

Aquaculture has been specifically designated as an aquatic land use of state-wide value. Therefore, the department generally encourages this use, and it takes precedence over other water-dependent uses which have only local interest values. SEE ALSO: State-wide value.

Before leasing a site for aquaculture, the department or the applicant should check for health-related closure areas. Closures may be the result of pollution or of illness-causing bacteria. Shellfish areas must be approved by the Department of Health's Shellfish Monitoring Program.

The environmental impacts of surrounding activities can have adverse effects on aquaculture. In particular, increasing

sewage disposal and non-point pollution, both associated with population growth, can render areas unfit for harvesting shellfish or growing fin fish. The department must take careful consideration of this when considering applications for uses near aquaculture sites, and applicants should be aware of environmental impacts which are beyond the department's control. SEE ALSO: Environmental protection.

Upland residential development can also present a problem for aquaculture. In addition to pollution issues, bulkheads constructed by residents potentially alter the marine environment. Also, some residents have concerns about noise and aesthetic issues. Aquaculture operations should seek to address such concerns, and the lease should detail how this will be done. However, aquaculture remains a favored use of state-owned aquatic lands.

Cultivation of artificial shellfish beds can have unexpected adverse environmental impacts. In preparing beds, operators have been known to uproot and destroy existing aquatic vegetation and other habitat. Also, in the past, chemicals have been used to kill unwanted species. To prevent such damage, a lease should include a plan of operations which indicates how artificial beds will be prepared without such impacts, and staff should have the opportunity to review implementation of the plans.

## **AQUACULTURE: LEASES**

SEE: Use authorizations.

## **AQUACULTURE: NET PENS AND FLOATING RAFTS**

## **Discussion on aquaculture: net pens and floating rafts**

Environmental concerns related to net pens (for fin fish) and floating rafts (for shellfish) include accumulation of organic wastes below the pens, and the introduction of exotic species or diseases into the environment. With an application for leasing net pens or floating rafts, the department should require a plan of operations and other information to ensure both environmental protection and adequate technical and business expertise on the part of the operator. SEE ALSO: Use authorizations.

The department recently conducted a study, titled "Potential Offshore Fin Fish Aquaculture in the State of Washington," March 1999, to identify potential suitable sites for net pens. These are primarily along the Strait of Juan de Fuca. Contact the Division for information on this study.

Some jurisdictions, notably Kitsap County, may limit net pens and floating aquaculture. In such cases, unless the project proponent receives variance or conditional use authorization from the local government, the department will not issue a lease. To avoid this type of conflict, the department should work closely with local governments on their shoreline master programs to ensure they do not prohibit uses allowed under the Shoreline Management Act.

## **AQUACULTURE: SHELLFISH CULTIVATION**

### **RCW 79.96.010: Leasing beds of tidal waters for shellfish cultivation or other aquaculture use.**

The beds of all navigable tidal waters in the state lying below extreme low tide, except as prohibited by section 1, Article XV, of the Washington state Constitution shall be subject to lease for the purposes of planting and cultivating oyster beds, or for the purpose of cultivating clams or other edible shellfish, or for other aquaculture use, for periods not to exceed thirty years. Nothing in this section

shall prevent any person from leasing more than one parcel, as offered by the department.

**RCW 79.96.020: Leasing lands for shellfish cultivation or other aquaculture use--Who may lease--Application--Deposit.**

Any person desiring to lease tidelands or beds of navigable waters for the purpose of planting and cultivating oyster beds, or for the purpose of cultivating clams and other edible shellfish, shall file with the department of natural resources, on a proper form, an application in writing signed by the applicant and accompanied by a map of the lands desired to be leased, describing the lands by metes and bounds tied to at least two United States government corners, and by such reference to local geography as shall suffice to convey a knowledge of the location of the lands with reasonable accuracy to persons acquainted with the vicinity, and accompanied by a deposit of ten dollars which deposit shall be returned to the applicant in case a lease is not granted.

**RCW 79.96.030: Leasing lands for shellfish cultivation or other aquaculture use--Inspection and report by director of fish and wildlife--Rental and term--Commercial harvest of subtidal hardshell clams by hydraulic escalating.**

(1) The department of natural resources, upon the receipt of an application for a lease for the purpose of planting and cultivating oyster beds or for the purpose of cultivating clams or other edible shellfish, shall notify the director of fish and wildlife of the filing of the application describing the tidelands or beds of navigable waters applied for. The director of fish and wildlife shall cause an inspection of the lands applied for to be made and shall make a full report to the department of natural resources of his or her findings as to whether it is necessary, in order to protect existing natural oyster beds, and to secure adequate seeding thereof, to retain the lands described in the application for lease or any part thereof, and in the event the director deems it advisable to retain the lands or any part thereof for the protection of existing natural oyster beds or to guarantee the continuance of an adequate seed stock for existing natural oyster beds, the same shall not be subject to lease. However, if the director determines that the lands applied for or any part thereof may be leased, the director shall so notify the

department of natural resources and the director shall cause an examination of the lands to be made to determine the presence, if any, of natural oysters, clams, or other edible shellfish on said lands, and to fix the rental value of the lands for use for oyster, clam, or other edible shellfish cultivation. In his or her report to the department, the director shall recommend a minimum rental for said lands and an estimation of the value of the oysters, clams, or other edible shellfish, if any, then present on the lands applied for. The lands approved by the director for lease may then be leased to the applicant for a period of not less than five years nor more than ten years at a rental not less than the minimum rental recommended by the director of fish and wildlife. In addition, before entering upon possession of the land, the applicant shall pay the value of the oysters, clams, or other edible shellfish, if any, then present on the land as determined by the director, plus the expense incurred by the director in investigating the quantity of oysters, clams, or other edible shellfish, present on the land applied for.

(2) When issuing new leases or reissuing existing leases the department shall not permit the commercial harvest of subtidal hardshell clams by means of hydraulic escalating when the upland within five hundred feet of any lease tract is zoned for residential development.

**RCW 79.96.050: Leasing lands for shellfish cultivation or other aquaculture use--Renewal lease.**

The department of natural resources may, upon the filing of an application for a renewal lease, cause the tidelands or beds of navigable waters to be inspected, and if he or she deems it in the best interests of the state to re-lease said lands, he or she shall issue to the applicant a renewal lease for such further period not exceeding thirty years and under such terms and conditions as may be determined by the department: PROVIDED, That in the case of an application for a renewal lease it shall not be necessary for the lands to be inspected and reported upon by the director of fish and wildlife.

**RCW 79.96.060: Leasing lands for shellfish cultivation or other aquaculture use--Reversion for use other than cultivation of shellfish.**

All leases of tidelands and beds of navigable waters for the purpose of planting and cultivating oysters, clams, or other edible shellfish

shall expressly provide that if at any time after the granting of said lease, the lands described therein shall cease to be used for the purpose of oyster beds, clam beds, or other edible shellfish beds, they shall thereupon revert to and become the property of the state and that the same are leased only for the purpose of cultivating oysters, clams, or other edible shellfish thereon, and that the state reserves the right to enter upon and take possession of said lands if at any time the same are used for any other purpose than the cultivation of oysters, clams, or other edible shellfish.

**RCW 79.96.070: Leasing lands for shellfish cultivation or other aquaculture use--Abandonment--Application for other lands.**

If from any cause any lands leased for the purpose of planting and cultivating oysters, clams, or other edible shellfish shall become unfit and valueless for any such purposes, the lessee or his assigns, upon certifying such fact under oath to the department of natural resources, together with the fact that he has abandoned such land, shall be entitled to make application for other lands for such purposes.

**RCW 79.96.090: Lease of tidelands set aside as oyster reserves.**

The department of natural resources is hereby authorized to lease first or second class tidelands which have heretofore or which may hereafter be set aside as state oyster reserves in the same manner as provided elsewhere in this chapter for the lease of those lands.

**RCW 79.96.100: Inspection and report by director of fish and wildlife.**

The department of natural resources, upon the receipt of an application for the lease of any first or second class tidelands owned by the state which have heretofore or which may hereafter be set aside as state oyster reserves, shall notify the director of fish and wildlife of the filing of the application describing the lands applied for. It shall be the duty of the director of fish and wildlife to cause an inspection of the reserve to be made for the purpose of determining whether said reserve or any part thereof should be retained as a state oyster reserve or vacated.

**RCW 79.96.110: Vacation of reserve-Lease of lands.**

In case the director of fish and wildlife approves the vacation of the whole or any part of said reserve, the department of natural resources may vacate and offer for lease such parts or all of said reserve as it deems to be for the best interest of the state, and all moneys received for the lease of such lands shall be paid to the department of natural resources in accordance with \*RCW 79.94.190: PROVIDED, That nothing in RCW 79.96.090 through 79.96.110 shall be construed as authorizing the lease of any tidelands which have heretofore, or which may hereafter, be set aside as state oyster reserves in Eld Inlet, Hammersley Inlet, or Totten Inlet, situated in Mason or Thurston counties: PROVIDED FURTHER, That any portion of Plat 138, Clifton's Oyster Reserve, which has already been vacated, may be leased by the department.

**WAC 332-30-157: Commercial clam harvesting.**

- (1) Commercial clam beds on aquatic lands shall be managed to produce an optimum yield.
- (2) The boundaries of clam tracts offered for lease shall be established and identified to avoid detrimental impacts upon significant beds of aquatic vegetation or areas of critical biological significance as well as prevent unauthorized harvesting.
- (3) The methods of harvest may only be those as established by law and certified by the department of fisheries.
- (4) Surveillance methods will be employed to insure that trespass as well as off-tract harvesting is prevented.
- (5) Harvesters must comply with all lease provisions. Noncompliance may result in lease suspension or cancellation upon notification.
- (6) Harvesters must comply with all applicable federal, state and local rules and regulations. Noncompliance may result in lease suspension or cancellation upon notification.
- (7) If appropriate, the department may secure all necessary permits prior to leasing.

**Discussion on aquaculture: shellfish cultivation**

In summary of the RCWs above, when the department receives an application for lease of state-owned aquatic lands for harvesting, planting or cultivating oysters, clams or other shellfish, the department must notify the Washington

Department of Fish and Wildlife (WDFW). WDFW will inspect the lands and may prohibit the leasing of the land if necessary to ensure protection of existing natural oyster beds and to secure adequate seeding of these beds. Also, if the land is to be leased, WDFW will establish the value of any existing natural shellfish. The applicant must pay this value, as well as the costs of WDFW investigating the existing natural shellfish and establishing the value. Such a review is not necessary for renewal of leases.

WDFW will similarly review applications for lease of state-owned aquatic lands which have been set aside as oyster reserves, to determine if the reserve should be vacated. Oyster reserves are managed by WDFW until they are vacated; then DNR manages, leases and collects rents from these lands.

An initial lease for shellfish cultivation will last from five to ten years. A renewal may be for up to thirty years, but should be less, unless necessitated by financing needs of the aquaculture operation. If state-owned aquatic lands leased for shellfish cultivation are not used, or are used for any other purpose, all rights to the land revert to the state and the department may take possession of the lands. This condition must be a part of all such leases.

## AQUACULTURE: TRIBAL ISSUES

### Discussion on aquaculture: tribal issues

Treaties guarantee half of the naturally occurring harvestable shellfish, as well as other rights, to federally recognized tribes in Washington. The judicial ruling upholding the tribal rights to harvest shellfish requires that the department accommodate the quantity of natural shellfish that might occur on beds that are now, or will be, used for the artificial cultivation of shellfish. The department should determine whether and how these rights apply to any given shellfish lease. Because this ruling,

known as the Rafeedie decision, is relatively new, land managers should consult with the Division on steps to take to comply with the decision.

## Aquatic lands

SEE: State-owned aquatic lands.

## Aquatic Lands Enhancement Account

### **RCW 79.24.580 Deposit, use of proceeds from sale or lease of aquatic lands or valuable materials therefrom -- Aquatic lands enhancement account.**

After deduction for management costs as provided in RCW 79.64.040 and payments to towns under RCW 79.92.110(2), all moneys received by the state from the sale or lease of state-owned aquatic lands and from the sale of valuable material from state-owned aquatic lands shall be deposited in the aquatic lands enhancement account which is hereby created in the state treasury. After appropriation, these funds shall be used solely for aquatic lands enhancement projects; for the purchase, improvement, or protection of aquatic lands for public purposes; for providing and improving access to such lands; and for volunteer cooperative fish and game projects. During the fiscal biennium ending June 30, 2001, the funds may be appropriated for boating safety, shellfish management, enforcement, and enhancement and for developing and implementing plans for population monitoring and restoration of native wild salmon stock.

### Discussion on Aquatic Lands Enhancement Account

The Aquatic Lands Enhancement Account (ALEA) receives much of the revenue generated from the department's management of state-owned aquatic lands. The remainder

goes to the Resource Management Cost Account to pay for management costs. SEE ALSO: Resource Management Cost Account.

The ALEA account is a key mechanism for investing income from state-owned aquatic lands in projects that directly benefit the people of Washington. Funding is appropriated by the Legislature to the department and then is granted by the department to cities, counties, ports, tribes, and state agencies. Between 1984 and 1999, the department's ALEA grants invested more than \$23 million in more than 180 projects to improve access to waterfront areas and to provide other public benefits from the use of state-owned aquatic lands. The department should highlight the benefits from the ALEA program that flow directly to communities across the state from responsible management of state-owned aquatic lands.

ALEA offers grants to state agencies, local governments, tribes, and other jurisdictions to:

- Rehabilitate critical marine, estuarine and riverine aquatic habitat in areas proposed for federal Endangered Species Act listings of salmon.
- Re-establish naturally self-sustaining aquatic riparian areas that are fully integrated into the larger ecological landscape.
- Purchase and protect existing high-value aquatic habitats, allowing natural processes to occur.
- Create or rehabilitate aquatic recreational opportunities, pedestrian-oriented projects that provide immediately usable waterfront access, and other ways for people simply to get to the water.
- Increase public awareness of state-owned aquatic lands as a finite natural resource and irreplaceable public heritage.

The Division manages the ALEA grant program, including developing program guidelines and selection criteria, distributing information on the grant application process, managing the selection process, administering grant agreement contracts, and monitoring operation and maintenance of completed projects.

Region staff can contribute to the ALEA program in several ways, including:

- Being aware of the ALEA projects in their Region.
- Identifying areas where projects should be encouraged.
- Informally checking on the progress of projects under development in the area.
- Joining Division staff on site visits to provide local knowledge of environmental conditions and recreational opportunities.
- Participating in the annual grant review process.

## Aquatic land use planning

### **WAC 332-30-100: Introduction.**

Subsection (2)(e) of this section shall not apply to port districts managing aquatic lands under a management agreement (WAC 332-30-114). State-owned aquatic lands include approximately 1,300 miles of tidelands, 6,700 acres of constitutionally established harbor areas and all of the submerged land below extreme low tide which amounts to some 2,000 square miles of marine beds of navigable waters and an undetermined amount of fresh water shoreland and bed. These lands are managed as a public trust and provide a rich land base for a variety of recreational, economic and natural process activities. Management concepts, philosophies, and programs for state-owned

aquatic lands should be consistent with this responsibility to the public.

These lands are "a finite natural resource of great value and an irreplaceable public heritage" and will be managed to "provide a balance of public benefits for all citizens of the state."

(RCW 79.90.450 and 79.90.455)

(1) Management goals. Management of state-owned aquatic lands will strive to:

- (a) Foster water-dependent uses;
- (b) Ensure environmental protection;
- (c) Encourage direct public use and access;
- (d) Promote production on a continuing basis of renewable resources;
- (e) Allow suitable state aquatic lands to be used for mineral and material production; and
- (f) Generate income from use of aquatic lands in a manner consistent with the above goals.

(2) Management methods. To achieve the above, state-owned aquatic lands will be managed particularly to promote uses and protect resources of state-wide value.

- (a) Planning will be used to prevent conflicts and mitigate adverse effects of proposed activities involving resources and aquatic land uses of state-wide value. Mitigation shall be provided for as set forth in WAC 332-30-107(6).
- (b) Areas having unique suitability for uses of state-wide value or containing resources of state-wide value may be managed for these special purposes. Harbor areas and scientific reserves are examples. Unique use requirements or priorities for these areas may supersede the need for mitigation.
- (c) Special management programs may be developed for those resources and activities having state-wide value. Based on the needs of each case, programs may prescribe special management procedures or standards such as lease auctions, resource inventory, shorter lease terms, use preferences, operating requirements, bonding, or environmental protection standards.
- (d) Water-dependent uses shall be given a preferential lease rate in accordance with RCW 79.90.480. Fees for nonwater-dependent aquatic land uses will be based on fair market value.
- (e) Research and development may be conducted to enhance production of renewable resources.

### **WAC 332-30-107: Aquatic land planning.**

Subsection (4) of this section shall not apply to port districts managing aquatic lands under a management agreement (WAC 332-30-114).

(1) Multiple use. The aquatic lands of Washington are a limited and finite resource. Management of these lands will allow for multiple use by compatible activities to the greatest extent feasible.

(2) Planning objectives. Aquatic land management will strive for the best combination of aquatic uses to achieve the goals in WAC 332-30-100. Planning should allow for a variety of uses and activities, such as navigation; public use; production of food; energy; minerals and chemicals; and improvement of aquatic plant and animal habitat, occurring simultaneously or seasonally on state-owned aquatic lands.

(3) Shoreline management. The Shoreline Management Act and shoreline master program planning, together with supplemental planning as described in subsection (5) of this section, will be the primary means for identifying and providing appropriate uses of state-wide value.

(4) Coordination. Coordination with shoreline management programs will be accomplished by:

- (a) Identifying aquatic land areas of particular state-wide value for public access, habitat and water-dependent and renewable resource use.
- (b) Informing appropriate shoreline planning bodies of the location and particular value of aquatic lands identified in (a) of this subsection.
- (c) Participating in shoreline planning and suggesting ways to incorporate and balance state-wide values.
- (d) Proposing to the appropriate local jurisdiction that shoreline plans be updated when new information concerning state-wide values becomes available or when existing plans do not adequately address state-wide values.

(5) Supplemental planning. The department (for aquatic lands not covered under port management agreements) or port districts (for aquatic lands managed under port management agreements) may supplement the shoreline master program planning process with management plans necessary to meet the constitutional and statutory proprietary responsibilities for state-owned aquatic lands. Plans developed and implemented under this subsection will involve aquatic lands, resources, and activities requiring intensive



management, special protection, or conflict resolution and will be developed when these needs are not provided for by shoreline master program planning. Aquatic land uses and activities implemented through this supplemental planning process will be consistent with adopted shoreline master programs and the Shoreline Management Act. Planning activities will be closely coordinated with local, state, and federal agencies having jurisdiction and public participation will be encouraged.

(6) Mitigation. Shoreline master program planning and additional planning processes described in subsection (5) of this section will be the preferred means for identifying and mitigating adverse impacts on resources and uses of state-wide value. In the absence of such planning directed to these values and uses, the department (for aquatic lands not covered under port management agreements) or port districts (for aquatic lands managed under port management agreements) will mitigate unacceptable adverse impacts on a case-by-case basis by the following methods in order of preference:

- (a) Alternatives will be sought which avoid all adverse impacts.
- (b) When avoidance is not practical, alternatives shall be sought which cause insignificant adverse impacts.
- (c) Replace, preferably on-site, impacted resources and uses of state-wide value. It must be demonstrated that these are capable of being replaced.
- (d) Payment for lost value, in lieu of replacement, may be accepted from the aquatic land user in limited cases where an authorized use reduces the economic value of off-site resources, for example, bacterial pollution of nearby shellfish beds.

### **WAC 332-30-134: Aquatic land environmental protection.**

(1) Planning. Coordinated, interagency planning will be encouraged to identify and protect natural resources of state-wide value.

(2) Reliance on other agencies. Aquatic land natural resources of state-wide value are protected by a number of special state and federal environmental protection programs including: State Shorelines Management Act, Environmental Policy Act, Hydraulics Project Approval, National Environmental Policy Act, Federal Clean Water Act, Fish and Wildlife Coordination Act and section 10 of the Rivers and Harbors Act. Governmental agencies with appropriate jurisdiction and expertise will normally be depended on to evaluate environmental impacts of individual projects and to incorporate

appropriate protective measures in their respective project authorizations.

(3) Method. Leases and other proprietary aquatic land conveyances may include environmental protection requirements when:

- (a) Regulatory agencies' approvals are not required;
- (b) unique circumstances require long-term monitoring or project performance; or
- (c) substantial evidence is present to warrant special protection.

## **AQUATIC LAND USE PLANNING: AQUASCAPE PLANS**

### **Discussion on aquatic land use planning: aquascape plans**

An aquascape plan is simply a land use plan for aquatic lands. It may include many of the elements found in upland comprehensive plans: identification of current uses and critical natural areas, identification of land use needs and goals, and designation of areas for certain uses or for natural reserves.

The Division has drafted an aquascape plan template. The department hopes to apply this template to many areas across the state, for both saltwater and freshwater, in the next few years. Writing aquascape plans will require extensive cooperation between the Division, Regions, and many others in the department.

Currently, the Division is coordinating major planning efforts in Commencement Bay and Bellingham Bay. These are intended to address specific issues in these bays, notably contaminated sediments, and to serve as pilot efforts for aquascape planning.

## **AQUATIC LAND USE PLANNING: WATERSHED PLANS**

## Discussion on aquatic land use planning: watershed plans

Watershed planning has been an on-going process across the state for a number of years, with varying degrees of geographic size, content scope, and level of participation. Watershed planning focuses primarily on upland river basins, as opposed to bays or other marine waters. Whenever possible, the department should be actively involved in all watershed planning that will affect state-owned aquatic lands, including rivers and marine waters.

A Water Resource Inventory Area (WRIA) is a watershed-based planning unit defined by the Department of Ecology. There are 62 WRIsAs in Washington, determined by drainages to common water bodies. A Watershed Administrative Unit (WAU), smaller than a WRIA, is the basic hydrologic unit used for watershed analysis. There are nearly 800 WAUs in the state.

The department has signed an MOU with other state agencies on the implementation of watershed planning under a law passed in 1998 (SHB 2514), which provides funds for watershed planning by a single WRIA or a multi-WRIA effort. This MOU stipulates that if the department is requested or invited to participate by the WRIA or multi-WRIA planning group, the department will either assign a regional staff designee to participate or agree to let the regional Ecology staff person represent the department's interests.

Region Managers, in consultation with the Division Manager, shall identify whether the department should participate in a particular watershed planning process and at what level and intensity. Staff should monitor local watershed planning work through the department's designee. Where Ecology is the representative for the department on watershed planning, staff should identify concerns related to state-owned aquatic lands, and work closely with the Region

growth management coordinator to make sure these concerns are addressed in the watershed planning group's work before the final watershed plan is complete and finalized.

## Aquatic plants

SEE: Vegetation, aquatic

## Archaeological resources

### **RCW 79.90.565: Archaeological activities on state-owned aquatic lands--Agreements, leases, or other conveyances.**

After consultation with the director of community, trade, and economic development, the department of natural resources may enter into agreements, leases, or other conveyances for archaeological activities on state-owned aquatic lands. Such agreements, leases, or other conveyances may contain such conditions as are required for the department of natural resources to comply with its legal rights and duties. All such agreements, leases, or other conveyances, shall be issued in accordance with the terms of chapters 79.90 through 79.96 RCW.

### **Discussion on archaeological resources**

While statutes on state-owned aquatic lands discuss the major role that water-dependent industries and activities have played in the state's history, the Archaeological Sites and Resources Act also recognizes archaeology as a public benefit. The "public has an interest in the conservation, preservation, and protection of the state's archaeological resources, and the knowledge to be derived and gained from the scientific study of these resources." (Chptr. 27.53 RCW) If an archeological or historical site is uncovered or identified, the department will take appropriate steps to evaluate the special management needs of the site.

The Office of Archaeology and Historic Preservation (OAHP) at the Department of Community Trade and Economic Development (DCTED) maintains the Washington State Inventory of Historic Places. This inventory is a listing of the state's known archaeological and cultural resources, including those that may be on state-owned aquatic lands. In most places, there is not adequate information on the extent of archaeological sites in intertidal and subtidal areas. The department has a responsibility to manage these resources, if known or likely to exist, for the benefit of the public.

Underwater archaeological resources include artifacts and features that have been lost or intentionally placed in the water, or upland sites covered by water from dams or from natural water rise.

Lost items may include railroad cars, prehistoric stone tools, Euro-American metal anchors and fishing gear, airplanes, and bridge remnants. For example, the old Tacoma Narrows Bridge, known as "Gallopertie," collapsed into the waters of the Tacoma Narrows in 1940. The site has been placed on the National Register of Historic Places. Many other bridge remnants also may exist.

In 1988, the federal government gave the state of Washington title to all abandoned shipwrecks embedded in the submerged lands of the state. There may be more than 1,000 as yet unlocated state-owned shipwrecks.

Prehistoric cultural resources intentionally placed in or near water may include Native American canoe runs, petroglyphs and pictographs, fish traps or weirs, and trash dumps. Cultural resources found in water have exciting implications for prehistoric archaeology, as normally perishable materials such as basketry and wood are often preserved underwater. Examples of prehistoric trash dumps with preserved materials include the 3,000 year old Hoko River wet site in Clallam County, the 2,000 year old Biderbost site in Snohomish County, and the 1,000 year old Munk Creek wet

site in Skagit County. Prehistoric trash dumps should be considered a part of the associated upland sites, and both should be appropriately protected.

Many inundated archaeological sites are behind dams. Inundated sites include prehistoric villages, campsites, and historic forts, homesteads, towns, and waterfronts.

The rising levels of sea, rivers and lakes has covered older villages but often not resource exploitation locations -- such as animal kill sites, quarries, plant gathering and stone working places -- which were located away from coastlines. Historically known Northwest Coast villages were usually from five to twenty feet above the high water mark, near the mouths of rivers, at the meeting of waterways, or on sheltered bays or inlets. Older sites in many of these locations have been destroyed by wave action or are now under water.

Land managers who believe they might have identified a significant cultural resource on state-owned aquatic lands should, in consultation with the Division, recommend that it be registered with the Washington State Office of Archaeology and Historic Preservation. As part of that process, submission of a short form gives the state right-of-first refusal for salvage rights for a five year period, in case there are valuable materials connected with the resource (for example, shipwreck cargo). This gives the department additional leverage under RCW 27.53 and WAC 25-46 beyond its proprietary rights.

## Artificial reefs

**RCW 79.68.080: Fostering use of aquatic environment--Limitation.**

The department of natural resources shall foster the commercial and recreational use of the aquatic environment for production of food, fibre, income, and public enjoyment from state-owned aquatic lands under its jurisdiction and from associated waters, and to this end the department may develop and improve production and harvesting of seaweeds and sealife attached to or growing on aquatic land or contained in aquaculture containers, but nothing in this section shall alter the responsibility of other state agencies for their normal management of fish, shellfish, game and water.

**WAC 332-30-118: Tidelands, shorelands and beds of navigable waters.**

(11) Certain lands may be modified in order to improve their productivity by adding structures such as artificial reefs or materials and by establishment of biological habitats such as eel grass and kelp beds as well as marsh areas.

**WAC 332-30-169: Artificial reefs (RCW 79.68.080).**

Artificial reefs constructed of a variety of materials is an accepted method of increasing habitat for rock dwelling fish and invertebrates. In areas devoid of natural reefs, artificial reefs serve to increase the recreational potential of the area.

(1) Artificial reefs may be installed on aquatic lands by public groups or government agencies. However the sponsoring group or agency proposing such installation must submit their plan for review and approval to the reef siting committee prior to applying for permits. The artificial reef siting committee is a technical committee of the aquatic resources advisory committee and is composed of representatives of the departments of fisheries, ecology, environmental protection agency, national marine fisheries service and fish and wildlife service. The department chairs the committee. All permits must be acquired by the sponsoring group or agency prior to installation. The department may assist in and/or undertake reef design, construction, location, permit application and site inspection.

(2) Artificial reefs may be installed on aquatic lands under the following guidelines.

- (a) Large reefs built by community groups rather than smaller reefs built by individuals are encouraged.
- (b) Artificial reefs shall have a marking buoy meeting coast guard regulations and shall be marked on authorized navigation charts.

- (c) Leasing of bedlands is not required for artificial reefs established for public use, however, a public use agreement (see WAC 332-30-130(9)) must be issued. A public reef in harbor areas requires a lease. Private reefs are not permitted.
- (d) Artificial reefs should be located so that public upland access to the water is available, i.e., county or city parks, road frontage or endings adjacent to public aquatic lands. Due to the predominance of private shorelands, tidelands and uplands, public access may be restricted to boats only. The department does not promote or condone trespass on private property.
- (e) A proposed artificial reef shall not conflict with existing natural rocky fish habitats.
- (f) In selecting an artificial reef site shipping lanes, designated harbor areas and areas of marine traffic concentration shall be avoided. A thousand feet of horizontal clearance is recommended.
- (g) Artificial reefs shall be of sufficient depth to allow unimpeded surface navigation. A general rule of thumb is that clearance be equivalent to the greatest draft of ships or barges using the area, plus ten feet as measured from mean lower low water.
- (h) Artificial reefs shall not conflict with commercial or recreational fishing, shellfish harvesting areas or with known or potential aquaculture areas.
  - (i) Artificial reef design shall optimize "edge effect." Reef materials should not be scattered but clumped with small open spaces between clumps.
  - (ii) Artificial reefs shall be constructed of long-lasting, non-polluting materials.
  - (iii) Tires used as construction material shall be tied together to form sub units. The ties must not deteriorate in the marine environment and should consist of such material as polypropylene rope, stainless steel or plastic strapping. Tires must be cut or drilled to allow easy escapement of trapped air. Tires must be weighted in areas where currents or wave action may move them.
  - (iv) Cement pipe may be used as construction material. The pipe should be transported and positioned on the bottom so as to minimize breakage.
  - (vi) Rock or concrete chunks may be used as construction material.
  - (vii) Vessels may be used as an artificial reef. Size and type of vessels will be considered on a case by case basis.

- (k) Artificial reefs shall normally be located seaward of the minus 18 foot contour as measured from mean lower low water.
- (l) If a reef is for the exclusive use of either line fishermen or divers, it shall be so identified at the site.

## **Discussion on artificial reefs**

The department may allow the creation of artificial reefs as described above. However, the department is also obligated to ensure environmental protection on state-owned aquatic lands. SEE ALSO: Environmental protection.

In general, the placement of artificial materials in a healthy natural area is contrary to protecting the environment. In fact, the presence of tires, cement pipe, or concrete chunks on aquatic lands is generally considered a pollutant. Also, the disposal of vessels as artificial reefs can introduce oils, paints, and other toxic materials into the water. The department will not consider the placement of artificial reefs unless such concerns can be addressed and the reef constitutes a very significant habitat enhancement.

Currently, there is no active reef siting committee.